

REMARKS

Favorable reconsideration of the present application is requested.

Claims 1-12 are currently pending, with claim 4 having been amended. Claims 1 and 4 are independent.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

The Examiner rejects claim 4 under 35 U.S.C. § 112, second paragraph as indefinite. Although Applicant does not necessarily agree with the Examiner's rejection, Applicant has amended claim 4 taking into account the Examiner's comments. Withdrawal of this rejection is requested.

REJECTIONS UNDER 35 U.S.C. § 103(a)

In response to Applicant's Request for a Pre-Appeal Brief Review, the Pre-Appeal Brief Review Board reversed the Examiner's rejection. Despite this decision the Examiner rejects claims 1-6, 8, 10 and 14 under 35 U.S.C. § 103(a) as allegedly unpatentable over **the same two references**, EP 0 567 061 ("Makivirta") and U.S. Patent No. 6,198,831 ("Azima"). The only difference between the previously reversed rejection and the current one the designation of the references as "primary," and "secondary." Namely, Makivirta is now designated as the primary reference and Azima is now designated as the secondary reference. However, Applicant respectfully submits this mere reversal in the designation of the references still does not make up for the lack of motivation to combine.

Even in the previous rejection, one of ordinary skill would consider both disclosures as a whole, regardless of which was considered by the Examiner as

the primary reference. As Applicant has previously and persuasively shown **(and the Pre-Appeal Brief Review Board agrees)**, one of ordinary skill would not have been motivated to combine Makivirta and Azima to arrive at, for example, the method of claim 1.

Regarding claim 1, the Examiner argues “it would have been obvious to modify Makivirta’s method of correcting by [using] a flat panel loudspeaker as the one-way loudspeaker [of Azima] to produce a more superior output over that of a conventional speaker.” *Office Action* at 4. The same argumentation is used as motivation for arriving at the device of claim 4.

Although the Examiner uses the same references in rejecting claim 1, as noted above, this time the Examiner begins with Makivirta and alleges one of ordinary skill would look to Azima to make up for the deficiencies of Makivirta. However, the Examiner points only to a specific passage in Azima (i.e., column 4, ll. 61 – 62) as motivation for doing so. Assuming *arguendo* the Examiner's reasoning is plausible (which Applicant does not admit), how then, could one of ordinary skill begin with the disclosure of Makivirta, and be lead to Azima if the only motivation for doing so is found in the disclosure of Azima? They could not.

Given this implausible reasoning, Applicant believes the Examiner has, yet again, fallen victim to hindsight reconstruction. Namely, the Examiner has located a prior art reference disclosing a conventional, but deficient, loudspeaker system and searched out the prior art to find the missing elements using the claimed invention as a blue print, and without any motivation for

doing so. According to the Examiner, not until finding the missing elements in Azima has the Examiner found alleged motivation for combining references.¹

Moreover, Makivirta discloses a method and a system for reproducing audio frequencies in a sound reproduction system. The sound reproduction system comprises at least one wideband one-way loudspeaker (5) mounted in a loudspeaker cabinet. The frequency response (1) of the loudspeaker system is equalized by a filter (4). The filter (4) is a wideband filter. In operation, the wideband filter (4) measures the frequency response (1) of the loudspeaker system and approximates inverse response (2) based on the measurement results. The inverse response (2) is used by the filter (4) to equalize the variations of the frequency response (1) of the loudspeaker (5).

In Makivirta, an FIR filter is designed such that the response is an inverse of the amplitude response of the loudspeaker system between selected frequencies. The wideband filter (4), substantially covering the desired audio range and being a digital filter, is implemented in a digital signal processor programmed to implement a desired transfer function. In sum, Makivirta refers to a sound reproduction system with a **conventional membrane-type loudspeaker** (i.e., sound radiating from a **point-like sound source**). The conventional membrane-type loudspeaker is arranged in a loudspeaker cabinet such as the housing of a TV set. In this type of sound reproduction system, sound is corrected because the audio output of conventional membrane-

¹ Although Applicant refers to Azima as providing motivation for the Examiner's combination, Applicant does not admit that Azima discloses proper motivation for combining Makivirta and Azima.

loudspeakers is heavily influenced by its installation in a cabinet, for example, housing of a TV set or a mobile telephone.

Azima discloses a panel form combination loudspeaker/microphone for use in interactive environment. The loudspeaker/microphone combination comprises a rectangular frame carrying a resilient suspension around its inner periphery supporting a distributed mode sound radiating panel. As shown in FIGS. 3 and 4 of Azima, a transducer (9) is mounted only and exclusively on (or in) the panel (9) at a predetermined location. The position of the predetermined location is calculated such that bending waves are launched into the panel (2). The bending waves cause the panel (2) to resonate and radiate an acoustic output. The transducer (9) is driven by a signal amplifier.

For use as a sound receiver or microphone the panel (2) also carries a pair of vibration transducers (63) coupled in parallel. The pair of vibration transducers (63) drive a signal receiver and conditioner (65) connected to an output. Another vibration transducer (63) on the panel (2) is coupled to drive a filter/correlator (64). The output of the filter/correlator (64) is fed to the signal receiver and conditioner (65) for signal correction.

Firstly, the signal correction disclosed in Azima applies to the **microphone use of the panel** not the loudspeaker use. **Azima is silent about the details of the correction method performed by the filter/correlator (64) driven by a vibration transducer (63) during loudspeaker use of the panel (2).** Moreover, even if details of the signal correction method were disclosed, Azima fails to teach how a signal is corrected and how that

correction is applied to the input signal of the panel (2) when used as a loudspeaker.

Furthermore, if the man skilled in the art would have looked to Azima for the deficiencies of Makivirta, he/she would have been lead away from the present invention: Azima teaches to optimize the acoustic output by placing a transducer (9) on or in a panel at a predetermined location. According to the disclosure the sound-output is best, if the position of the transducer (9) is calculated as described in U.S. patent applications with serial nos. 09/011,773, 09/011,770 and 09/011,831. Additionally, Azima mentions signal correction only in connection with the microphone use of the panel, but not for the loudspeaker use of the panel.

For at least the foregoing reasons, one of ordinary skill in the art would not have been motivated to combine Makivirta and Azima to arrive at the method of claim 1. Moreover, even assuming *arguendo* one of ordinary skill in the art would have been motivated to do so (which Applicant does not admit), the resultant combination does not render claim 1 obvious. Thus, claim 1 is patentable over Makivirta and Azima. Claim 4 is patentable over Makivirta and Azima for at least reasons somewhat similar to those set forth above with regard to claim 1. Claims 2-3 and 5-12 are patentable over Makivirta and Azima at least by virtue of their dependency from claims 1 or 4.

ADDITIONAL REJECTIONS UNDER 35 U.S.C. § 103(a)

Additionally, the Examiner has rejected claims 7, 9, 11 and 12 under 35 U.S.C. § 103 as being unpatentable over Azima, Makivirta and further in view

of Smith et al. (GB 2,265,519, hereinafter "Smith"). Applicant respectfully traverses these rejections for at least the reasons set forth above. Further, even assuming *arguendo* that Smith could be combined with either one or both of Azima and Makivirta (which Applicant does not admit), they would still fail to makeup for the previously mentioned deficiencies set forth with regard to independent claims 1 and 4 of the present application. Accordingly, withdrawal of the current rejection of claims 7, 9, 11 and 12 is respectfully requested.

CONCLUSION

In view of above remarks, reconsideration of the outstanding rejection and allowance of the pending claims is respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Andrew M. Waxman at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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